

IN THE CLAIMS:

The following listing of claims will replace all prior versions, and listings, of claims in the application.

Claims 1-62: Cancelled.

63. (New) A method to configure data messages, the method comprising:

querying a first network device for configuration of a first data message, wherein the first network device is coupled to a network, wherein the first network device is configured to send the first data message to a second network device coupled to the network;

sending a first configuration message to a configuration computer in response to said querying, wherein the first configuration message comprises a first configuration for a plurality of data elements in the first data message;

displaying the first configuration of the first data message on a display of the configuration computer;

overriding the first configuration of the first data message, wherein said overriding comprises the user selecting a second configuration of the first data message; and

sending a second configuration message to the first network device, wherein the second configuration message comprises the second configuration for the plurality of data elements in the first data message;

wherein the first network device is configured to send the first data message according to the second configuration in response to receiving the second configuration message.

64. (New) The method of claim 63,

wherein the first configuration comprises location and type of each data element of the plurality of data elements; and

wherein said user selecting comprises the user selecting and rearranging on the display the location and type of one or more data elements of the plurality of data elements of the first configuration.

65. (New) The method of claim 64,

wherein the first data message comprises one or more message arbitration IDs, wherein each one of the one or more message arbitration IDs identifies the type and location of data in the first data message.

66. (New) The method of claim 63,

wherein the first network device comprises a first input module and a second input module, wherein the first input module is configured to acquire first physical data, wherein the second input module is configured to acquire second physical data; and

wherein the first data message contains data for the first physical data and the second physical data.

67. (New) The method of claim 63,

wherein the first network device comprises at least one of two or more inputs or two or more outputs; and

wherein the first data message contains data for the two or more inputs or the two or more outputs.

68. (New) The method of claim 63,

wherein the configuration computer is configured to execute a graphical program, wherein the graphical program is configured to communicate with the first network device; and

wherein the graphical program is operable to process and use data from the first data message.

69. (New) The method of claim 68,
wherein the graphical program comprises a plurality of interconnected nodes that visually indicate functionality of the graphical program; and
wherein the graphical program comprises a block diagram portion and a user interface portion.

70. (New) The method of claim 63,
wherein the first network device is further configured to said send the first data message on occurrence of one or more events, wherein the one or more events comprise:
end of a predetermined time period;
change of a state;
reaching a predetermined level; or
poll from the communication network.

71. (New) A network device for use in a network, wherein the network device comprises:

a network module coupled to a network;

a first input module coupled to the network module;

wherein the network module is operable to transmit a first data message on the network, wherein the first data message comprises a plurality of data elements ordered according to a first configuration;

wherein the first configuration of the first data message is operable to be re-configured using a graphical configuration tool into a second configuration, wherein the graphical configuration tool executes on a computer, wherein the computer is coupled to the network, wherein the first data message is operable to be re-configured according to the second configuration.

72. (New) The network device of claim 71,

wherein the first input module is operable to acquire first physical data;

wherein the first physical data is operable to be digitized into first digital data, wherein the plurality of data elements comprises the first digital data; and

wherein the first data message is configured to contain the first digital data.

73. (New) The network device of claim 71,

wherein the computer is operable to send a configuration message to the network module; and

wherein said re-configuring the first data message comprises re-configuring the first data message in response to receiving the configuration message.

74. (New) The network device of claim 71,

wherein the first configuration comprises location and type of each data element of the plurality of data elements; and

wherein said user selecting comprises the user selecting and rearranging on the display the location and type of one or more data elements of the plurality of data elements of the first configuration.

75. (New) The network device of claim 74,
wherein the first data message comprises one or more message arbitration IDs,
wherein each one of the one or more message arbitration IDs identifies the type and
location of data in the first data message.

76. (New) The network device of claim 71,
wherein the first network device comprises a first input module and a second
input module, wherein the first input module is configured to acquire first physical data,
wherein the second input module is configured to acquire second physical data; and
wherein the first data message contains data for the first physical data and the
second physical data.

77. (New) The network device of claim 71,
wherein the first network device comprises at least one of two or more inputs or
two or more outputs; and
wherein the first data message contains data for the two or more inputs or the two
or more outputs.

78. (New) The network device of claim 71,
wherein the configuration computer is configured to execute a graphical program,
wherein the graphical program is configured to communicate with the first network
device; and
wherein the graphical program is operable to process and use data from the first
data message.

79. (New) The network device of claim 78,
wherein the graphical program comprises a plurality of interconnected nodes that
visually indicate functionality of the graphical program; and
wherein the graphical program comprises a block diagram portion and a user
interface portion.

80. (New) The network device of claim 71,
wherein the first network device is further configured to said send the first data message on occurrence of one or more events, wherein the one or more events comprise:
end of a predetermined time period;
change of a state;
reaching a predetermined level; or
poll from the communication network.

81. (New) A method to configure CAN devices, the method comprising:

a first CAN device sending a first configuration message to a host computer, wherein the first configuration message comprises a first arrangement of arbitration IDs for a plurality of data channels in a first CAN message, wherein the first CAN message is operable to be sent from the first CAN device to a second CAN device, wherein both the first and the second CAN devices are coupled to a CAN network;

displaying the first arrangement of arbitration IDs of the first CAN message on a display of the host computer;

changing the first arrangement of arbitration IDs for the plurality of data channels in the first CAN message, wherein said changing comprises the user selecting a second arrangement of arbitration IDs for the plurality of data channels in the first CAN message;

sending a second configuration message to the first CAN device, wherein the second configuration message comprises the second arrangement of arbitration IDs for the plurality of data channels in the first CAN message; and

the first CAN device sending the first CAN message in accordance to the second arrangement of arbitration IDs for the plurality of data channels in response to receiving the second configuration message.

82. (New) The method of claim 81,

wherein the first configuration comprises location and type of each data element of the plurality of data channels; and

wherein said user selecting comprises the user selecting and rearranging on the display the location and type of one or more data channels of the plurality of data channels of the first configuration.

83. (New) The method of claim 82,

wherein the first CAN message comprises one or more message arbitration IDs, wherein each one of the one or more message arbitration IDs identifies the type and location of data in the first CAN message.

84. (New) The method of claim 81,
wherein the host computer is configured to execute a graphical program, wherein
the graphical program is configured to communicate with the first CAN device; and
wherein the graphical program is operable to process and use data from the first
CAN message.

85. (New) The method of claim 81,
wherein the first CAN device is further configured to said send the first CAN
message on occurrence of one or more events, wherein the one or more events comprise:
end of a predetermined time period;
change of a state;
reaching a predetermined level; or
poll from the communication network.

86. (New) A method to configure CAN devices, the method comprising:

querying a first CAN device for configuration of a first CAN message, wherein the first CAN device is coupled to a CAN network, wherein the first CAN message is operable to be sent from the first CAN device to a second CAN device coupled to the CAN network;

sending a first configuration message to a host computer in response to said querying, wherein the first configuration message comprises a first configuration for a plurality of data channels in the first CAN message;

displaying the first configuration of the first CAN message on a display of the host computer;

changing the displayed first configuration of the first CAN message, wherein said changing comprises the user selecting a second configuration of the first CAN message;

sending a second configuration message to the first CAN device, wherein the second configuration message comprises the second configuration for the plurality of data channels in the first CAN message; and

the first CAN device sending the first CAN message to the second CAN device, wherein the first CAN message is created in accordance with the second configuration.

87. (New) The method of claim 86,

wherein the first configuration comprises location and type of each data element of the plurality of data channels; and

wherein said user selecting comprises the user selecting and rearranging on the display the location and type of one or more data channels of the plurality of data channels of the first configuration.

88. (New) The method of claim 87,

wherein the first CAN message comprises one or more message arbitration IDs, wherein each one of the one or more message arbitration IDs identifies the type and location of data in the first CAN message.

89. (New) The method of claim 86,
 wherein the host computer is configured to execute a graphical program, wherein
the graphical program is configured to communicate with the first CAN device;
 wherein the graphical program is operable to process and use data from the first
CAN message.

90. (New) The method of claim 86,
 wherein the first CAN device is further configured to said send the first CAN
message on occurrence of one or more events, wherein the one or more events comprise:
 end of a predetermined time period;
 change of a state;
 reaching a predetermined level; or
 poll from the communication network.